CLAIMS:

1. A hand-held powered tool comprising:

a housing;

a spindle mounted within the housing and having a longitudinal axis;

a spring member for applying a biasing force in the direction of the axis to a first component of the tool; and

a stop ring extending around the spindle for providing a bearing surface against which the spring member bears, the stop ring axially fixed on one of the spindle and a cylindrical sleeve which extends around the spindle;

characterised in that the spindle or sleeve includes a plurality of circumferentially spaced radially outwardly extending projections and the stop ring includes on its internal surface a corresponding plurality of recesses extending from a bearing face of the stop ring to an opposite face of the stop ring and with a corresponding plurality of pockets open at the opposite face, arranged such that the stop ring is fitted over the spindle or sleeve by the projections passing through the recesses and such that the stop ring is fixed on the spindle by the pockets engaging the projections (64) under the biasing force from the spring member.

2. A tool according to claim 1 and further comprising a drive train mounted in the housing and drivingly engageable with the spindle and the spindle is rotatably mounted within the housing.

3. A tool according to claim 2 wherein the component of the power tool to which the spring member applies a biasing force is a gear of an overload clutch which is drivably connectable to the spindle.

4. A tool according to claim 3 wherein the stop ring, spring member and driving gear are mounted on the cylindrical sleeve and the cylindrical sleeve is formed as a driven gear of the overload clutch.

5. A tool according to claim 4 wherein the cylindrical sleeve is rotationally fixedly mounted on the spindle and is axially slideable on the spindle so as to move the driving gear of the overload clutch into and out of engagement with the spindle drive train in order to change the mode of operation of the tool.

6. A tool according to claim 1 wherein each projection is part of an axially extending rib.

7. A tool according to claim 6 wherein a gap is formed across each rib so as to separate each rib into an axially forward portion forming the projection and a rearward portion.

8. A tool according to claim 1 wherein the spring member extends around the spindle.

9. A tool according to claim 1 wherein the spring member is a helical spring.

10. A tool according to claim 1 wherein the tool is a rotary hammer, the spindle is hollow and the hammer additionally comprises a hammering mechanism at least partially located within the spindle for generating repeated impacts on a tool or bit mounted at a forward end of the spindle.

11. A hammer according to claim 10 wherein the component of the hammer to which the spring member applies a biasing force is a slider sleeve which forms part of a mode change mechanism of the hammer for selectively transmitting rotary drive to the spindle.

12. A hammer according to claim 11 wherein a spindle drive train is provided for transmitting rotary drive to the spindle, the slider sleeve is rotationally fixedly and axially slideably mounted on the spindle and a spindle drive gear is mounted on the slider sleeve, arranged such that in a first axial position of the slider sleeve the spindle drive gear engages the spindle drive train to transmit rotary drive via the slider sleeve to the spindle and in a second axial position of the slider sleeve the spindle drive gear disengages the spindle drive train to disconnect rotary drive to the spindle.

13. A method of assembling a tool according to claim 1, comprising the steps of:

circumferentially aligning the recesses in the stop ring with the projections on the spindle or sleeve;

passing the stop ring over the projections against the biasing force of the spring member so that the recesses pass completely over the projections;

rotating the stop ring about the spindle or sleeve so as to circumferentially aligning the pockets in the stop ring with the projections; and

releasing the stop ring to axially fix the stop ring on the spindle by the pockets engaging the projections under the biasing force from the spring member.

14. A hand-held powered tool comprising:

a housing;

a spindle mounted within the housing and defining a longitudinal axis; the spindle including a plurality of circumferentially spaced and radially outwardly extending projections

a movable component axially movably mounted to the spindle;

a stop ring connectable around the spindle and including a radially inner face, a bearing face, and a second face axially opposite to the bearing face,

a spring located between the bearing face of the stop ring and the movable component and applying an axial biasing force to the moveable component and the stop ring; and

wherein the stop ring defines;

a plurality of recesses located in the radially inner face of the stop ring, the recesses extending axially and open at the bearing face and open at the second face, and slidable over the projections of the spindle during assembly of the power tool; and

a plurality of pockets located in the radially inner face of the stop ring and open at the second face and engageable with the projections of the spindle such that the stop ring is fixed on the spindle under the biasing force applied by the spring.

15. A method of assembling a tool according to claim 1, comprising the steps of:

providing components for assembly including:

a spindle defining a longitudinal axis and including a plurality of circumferentially spaced and radially outwardly extending projections;

a movable component;

a stop ring connectable around the spindle and including a radially inner face, a bearing face, and a second face axially opposite to the bearing face, the stop ring defining a plurality of recesses located in the radially inner face of the stop ring, the recesses extending axially and open at the bearing face and open at the second face ;and

a spring having a first end and a second end;

mounting the movable component on the spindle;

mounting the spring so that the first end of the spring will exert a bias force against the movable component when assembly is complete;

circumferentially aligning the recesses in the stop ring with the projections on the spindle;

passing the stop ring over the projections in a first axial direction so that the recesses pass completely over the projections;

rotating the stop ring about the spindle so as to circumferentially aligning the pockets in the stop ring with the projections;

moving the stop ring in a second axial direction; and

engaging the pockets of the stop ring with the projections of the spindle so as to fix the stop ring on the spindle under a biasing force exerted by the second end of the spring when assembly is complete.